

“Capacity Building and Strengthening Institutional Arrangement”

Workshop: Quantitative risk assessment of oil and gas plants

Main environmental issues

**IPPC: BREF, BAT/MTD
IPCC**

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IPPC (Integrated Pollution Prevention and Control)

- The [IPPC Directive 96/61/EC](#) lays down a framework requiring Member States to issue operating permits for certain installations carrying on industrial activities described in its [Annex 1](#).
- The Directive applies to new or substantially changed installations with effect from October 1999 and no later than October 2007 for existing installations.
- These permits must contain conditions based on best available techniques (BAT) as defined in the [Article 2.11](#) of the Directive, to achieve a high level of protection of the environment as a “whole”.

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- The term “Best Available Techniques” is defined in Article 2 of the Directive as “the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a “whole.”
- Article 2 goes on to clarify further this definition as follows:

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- “techniques” includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;
- “available” techniques are those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;
- “best” means most effective in achieving a high general level of protection of the environment as a “whole”.

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- **Article 16.2** of the Directive requires the European Commission to organise an exchange of information between Member States and the industries concerned on best available techniques, associated monitoring and developments in them.
- The **European IPPC Bureau** organises this exchange of information and produces BAT reference documents (BREFs) which Member States are required to take into account when determining best available techniques generally or in specific cases.

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- The Bureau carries on its work through Technical Working Groups (TWGs) comprising nominated experts from EU Member States, EFTA countries, Accession countries, industry and environmental NGOs. These experts provide information and data and then review the draft documents the Bureau produces.
- The European IPPC Bureau exists to catalyse an exchange of technical information on best available techniques under the IPPC Directive 96/61/EC and to create reference documents (BREFs) which must be taken into account when the competent authorities of Member States determine conditions for IPPC permits.

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- IPPC will apply to a wide range of industrial activities and the objective of the information exchange exercise is to assist the efficient implementation of the directive across the EU.
- The BREFs will inform the relevant decision makers about what may be technically and economically available to industry in order to improve their environmental performance and consequently improve the whole environment.
- Each sector of industry to be covered by the IPPC Directive will be addressed by a specific Technical Working Group (TWG) comprising nominated experts from Member States, EFTA countries, Accession countries, industry and environmental NGOs.

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- Each TWG is set up for a limited duration in order to provide information and to review the draft reference documents.
- The reference documents are produced following a set BREF outline and guide as agreed with DG Environment and the IEF (Information Exchange Forum) which gives important foundations for the understanding of best available techniques reference documents (BREFs).
- The objectives of the whole information exchange exercise are to accomplish a comprehensive exchange of information and views and through the publication of reference documents to help to redress any technological imbalances in the European Community.

IPPC (Integrated Pollution Prevention and Control)

- Promote the worldwide dissemination of limit values and techniques used in the Community and assist Member States in the efficient implementation of this Directive.
- Reference documents are produced following a set **BREF outline and guide** as agreed with DG Environment and the Information Exchange Forum (IEF). The outline refers to some standard pieces of text already translated into most European languages. In particular, the preface to BREFs and the standard introduction to chapters on BAT make important foundations for the understanding of BREFs.
- See also the IPPC web page of DG Environment at <http://www.ec.europa.eu/comm/environment/ippc/index.htm>

IPPC (Integrated Pollution Prevention and Control)

- CD by the Office for Official Publications of the European Communities "Reference Documents on Best Available Techniques (Council Directive 96/61/EC): First edition (multilingual)" ISBN 92-894-3678-6
(<http://ec.europa.eu/comm/environment/pubs/industry.htm>)

IPCC (Intergovernmental Panel on Climate Change)

- Human activities now occur on a scale that is starting to interfere with natural systems such as the global climate.
- Because climate change is such a complex and challenging issue, policymakers need an objective source of information about the causes of climate change, its potential environmental and socio-economic impacts, and possible response options.

IPCC (Intergovernmental Panel on Climate Change)

- Recognizing this, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988.
- The Panel's role is to assess on a comprehensive, objective, open and transparent basis the best available scientific, technical and socio-economic information on climate change from around the world.
- A main activity of the IPCC is also to provide in regular intervals an assessment of the state of knowledge on climate change.

IPCC

(Intergovernmental Panel on Climate Change)

- The assessments are based on information contained in peer-reviewed literature and, where appropriately documented, in industry literature and traditional practices.
- They draw on the work of hundreds of experts from all regions of the world.
- IPCC reports seek to ensure a balanced reporting of existing viewpoints and to be policy-relevant but not policy-prescriptive.
- Since its establishment the IPCC has produced a series of publications, which have become standard works of reference, widely used by policymakers, scientists, other experts and students.

IPCC (Intergovernmental Panel on Climate Change)

- The main IPCC products are Assessment Reports, Special Reports, Methodology Reports and Technical Papers.
- Assessment Reports consist of several volumes and provide comprehensive scientific, technical and socio-economic information on climate change, its causes, possible impacts and related response measures.
- The IPCC's First Assessment Report was released in 1990 and confirmed the scientific basis for concern about climate change.

IPCC (Intergovernmental Panel on Climate Change)

- This led to the decision by the UN General Assembly to prepare a UN Framework Convention on Climate Change (**UNFCCC**). The Convention entered into force in March 1994.
- The Second Assessment Report, “Climate Change 1995” was made available to the Second Conference of the Parties (COP 2) to the UNFCCC and provided input to the negotiations for the Convention’s Kyoto Protocol.

IPCC (Intergovernmental Panel on Climate Change)

- The Third Assessment Report, “Climate Change 2001” consists also of three working group reports on “The Scientific Basis”, “Impacts, Adaptation and Vulnerability” and “Mitigation”, and a Synthesis Report, which addresses a range of policy-relevant scientific and technical questions.
- In November 2003 the Panel agreed on the outlines for the working group contributions to the Fourth Assessment Report. This Report will be completed in the year 2007.

IPCC (Intergovernmental Panel on Climate Change)

- The first IPCC Guidelines for National Greenhouse Gas Inventories were prepared in 1994 and revised in 1996.
- They are currently undergoing another major revision and new IPCC Guidelines for National Greenhouse Gas Inventories will be available in 2006.

IPCC (Intergovernmental Panel on Climate Change)

- The following IPCC Technical Papers have been published:
 - Technologies, Policies and Measures for Mitigating Climate Change (1996);
 - An Introduction to Simple Climate Models used in the IPCC Second Assessment Report (1997);
 - Stabilization of Atmospheric Greenhouse Gases: Physical, Biological and Socio-Economic Implications (1997);
 - Implications of Proposed CO₂ Emissions Limitations (1997);

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- Climate Change and Biodiversity (2002).
- A Technical Paper on Climate Change and Water is planned to be finalized in late 2007.
- Most recent IPCC reports are also available on CD-ROM and can be viewed on the Internet at <http://www.ipcc.ch>.
- The IPCC has three Working Groups and a Task Force:

IPCC (Intergovernmental Panel on Climate Change)

- **Working Group I** assesses the scientific aspects of the climate system and climate change;
- **Working Group II** assesses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it;
- **Working Group III** assesses options for limiting greenhouse gas emissions and otherwise mitigating climate change.

The **Task Force on National Greenhouse Gas Inventories** is responsible for the IPCC National Greenhouse Gas Inventories Programme.

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References

- Integrated Pollution Prevention and Control (IPPC).
Reference Document on Best Available Techniques for Mineral Oil and Gas Refineries - February 2003.
- Toward a Consistent Methodology for Estimating Greenhouse Gas Emissions from Oil and Natural Gas Industry Operations. Climate Change. API Synopsis Report – January 2002.